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AUTHOR Wood, Kenneth L.; Wood, Susan Hawthorne
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ABSTRACT

Long-range planning techniques used by U.S. business corporations and the potential adaptation of these processes by public colleges and universities are examined. The state-of-the-art is developed by reviewing corporate strategic planning methods from the 1950s through the 1970s. Strategic planning, as defined by Drucker, is a continuous process of making entrepreneurial decisions systematically, organizing the effort needed to carry out these decisions, and measuring the expectations through feedback. The following techniques have been used by U.S. corporations: budgeting; personal-intuitive; return on investment and portfolio management; planning, programming, budgeting systems; growth strategy (strategic gap analysis); modeling and simulation; and probability. Similarities between public colleges and universities and U.S. options with regard to strategic planning requirements are outlined. It is suggested that the following steps be considered in adapting strategic planning processes to a university's requirements: (1) maintain a database regarding internal and external environments to assist planners at all levels; (2) establish expertise in using the planning techniques and tools (e.g., modeling, simulating, and projecting, as well as decision analysis); (3) design a system of strategic planning that will accept input from all units, provide for a review process, and subsequent summary into a university plan of action; and (4) insure that a reward system is tied to a unit's success. (SW)

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ARE CORPORATE STRATEGIC PLANNING TECHNIQUES USEFUL IN PUBLIC HIGHER EDUCATION?

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by

Kenneth L. Wood

Susan Hawthorne Wood

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ARE CORPORATE STRATEGIC PLANNING TECHNIQUES USEFUL IN PUBLIC HIGHER EDUCATION?

INTRODUCTION

Planning interest and efforts have increased greatly in recent years as the need for organizations to plan has become increasingly more urgent. This urgency can be attributed to numerous factors including[1]

(1) Enormous growth since 1950

(2) Increased networking of influential relationships

(3) Development of the communications media

(4) The transition of organizations from "single-headed" leadership to organizations with a multiplicity of decision makers.

(5) Increasingly complex social problems and programs.

Industry began long-range planning efforts about 1950 but activity greatly increased in the late 1950's as the United States and Europe were changing from a sellers' market to a buyers' market. This same shift to a buyers' market which has recently occurred in higher education has undoubtedly heightened higher education's interest in long-range or strategic planning some twenty years later.

Long-range or strategic planning has changed significantly in higher education during the last decade. One recognizes

> The importance of strategic planning as a major activity of organizational management is being increasingly accepted by both academicians and professional managers. Many who have considered the future needs of organizations have argued that a lack of adequate long range and strategic planning would be disastrous for organizations and for the society.[2]

During the 1965-75 period of large enrollment growth in higher education, the major thrust of planning activities was to meet the instructional

requirements by providing estimates of faculty and space needs. Since 1975 the trend of enrollment growth has slowed nationwide and, in certain geographic areas, the enrollment trend has reversed from growth to decline. The decline in enrollment is anticipated to accelerate drastically, bottoming out in the 1985-87 interval. Concurrent with this decline, significant shifts have occurred in student preferences in fields of study and in national and state funding attitudes. One observes

> With the advent of "lids" on spending, Proposition 13, and the like, the allocation of scarce resources in multiple objective environments has become an even greater challenge to the academic administrator.[3]

> In an aggregate sense, the pattern of this change contains numerous segments and cross-currents: shifts in the size of the college age component of the population; interregional population flows; effects of inflation and budget restraints on educational budgets;[4] movements in the supply and demand for college trained persons in various occupations, e.g., history teachers or accountants; and faculty unionization with its effects on administrative flexibility.[5]

Planned or unplanned--change will occur in public higher education in the 1980's.

To survive this period of potential radical resource decline and academic change, the chief executive officer of each institution must make the best possible decisions in a timely manner.

> Given the changed scale and context of higher education, whatever their future scale of operations, universities and other semi-autonomous institutions each need to make their own choices as to future activities and uses of resources, whatever the negotiating frameworks through which these choices have to be implemented. The turbulence of the environment is, in no small degree, the direct result of the contributions of universities to change, both social and technical, and that turbulence, far from abating, shows every sign of compounding itself. In any business or public organization having so long a lead-time any change in its operations, corporate planning and strategic decision making would be axiomatic.[6]

Strategic planning techniques can assist the chief executive officer of each institution in making appropriate decisions in the 1980's. One notes

> Colleges and universities have increased their use of private sector management techniques, in recent years. New tools and techniques are urgently needed as higher education institutions struggle with the one-two punch of an inflationary spiral and declining enrollments. In the 1980's, the pressures are likely to increase, and the need for private sector tools will be even greater.[7]

This paper will deal with the adaptation of the current "state of the art" in United States business corporation long-range planning techniques by public colleges and universities. The "state of the art" will be developed by reviewing corporate strategic planning methods from the 1950's through the 1970's. From these approaches, selected techniques will be recommended for employment in public institutions of higher education strategic planning efforts. Some of these techniques may be useful to private colleges and universities but such application is beyond the scope of this paper. The question of whether corporate strategic planning techniques are useful in public higher education will be addressed.

CORPORATE STRATEGIC PLANNING FROM 1950's THROUGH 1970's

Before reviewing corporate strategic planning methods from 1950's through 1970's, one must consider how planning developed and what strategic planning is.

> Planning has developed as a pragmatic field; its theory base is thin. As such much of the planning literature is anecdotal--reporting on single-company planning successes. Books and consulting firms generally present approaches which are based on a wider range of anecdotal evidence, but no consulting firm or author has a universally-valid planning system. The body of scholarly research involving comparative planning evaluations is so sparse [Gerstner (1972; Ansoff (1970); Thune and House (1972)] and inadequate that there is not yet even convincing evidence that planning *per se*, has demonstrable value to a firm.[8]

The term strategic planning is defined by Drucker as

> . . . a continuous process of making entrepreneurial decisions systematically, and with the best possible knowledge of their futurity; organizing systematically the effort needed to carry out these decisions; and measuring the expectations through organized systematic feedback.[9]

The process of participatory strategic planning is described as follows.

> In the first phase--the formulation of the strategy--top management no more than outlines the policy, the actual substance being provided by lower management on the basis of more direct, daily experiences of marketing, environmental, or technical developments. Middle management mainly takes care of the co-ordination and the reconciliation between the "main lines", the "facts" and the specific proposals. The second phase--the activation of the strategy--is mainly a political phase, namely convincing middle management of the ideas, the proposals, and the elaborations submitted by lower management. In the third phase--the organizational strategy--such provisions are made by top management as to make it possible for the strategies chosen to be implemented. After the proposals have been adopted by top management, top management and middle management will take the steering of the plans to be implemented by lower management upon themselves. The development outlined above of increasing participation in decision making affects the organizational handling of the strategic planning process. It is obvious that a higher degree of participation, both on the internal structure and on the objectives levels, call for structures other than the current ones and for further participants besides management.[10]

In considering the history of corporate strategic planning in the United States from 1950's through 1970's, Smit and Rade state:

> Up to about 1950, according to Ansoff (1977), analysis of corporate functions for the benefit of policy-making largely concerned operational sub-activities (sales or production). Operational activities were usually carried out separately. The budgeting process, for instance, was not part of an integrated policy process but stood apart from planning. Co-ordination and integration belonged to the tasks of general management and was mostly done on a personal-intuitive basis. With onward growth of the organization and increasing competition, the need became steadily greater to co-ordinate cost-determining systems and execution-oriented systems.[11]

The traditional long-range planning system in 1950 was the first integral system and allowed organizations to think about multi-year developments. The long-term considerations were based on extrapolations of existing objectives. The strategic planning approaches of this time interval included the personal-intuitive approach as well as the strategic variables, estimating/budgeting, and general survey approaches. Starting in the 1950's in response to the perceived strategic problem--a techno-economic mismatch between the market demands and the firm's product lines, a solution was developed--strategic planning

> a rational analysis of the opportunities offered by environment and of the strengths and weaknesses of the firm and selection of a match (strategy) between the two which best satisfied the objectives of the firm.[12]

With the passage of time the perception of the strategic problem and its complexity changed greatly. As organization as well as environmental problems became more complex, it became obvious that extrapolation of existing objectives by itself was not the proper way to plan, since such extrapolated objectives could not be separated from considerations of market developments and changes in political and social circumstances. As it became increasingly necessary to investigate alternative future situations at corporate policy level, the means for the needed investigations was the strategic planning systems around 1955.

In the early strategic planning systems, Ansoff holds that attention was aimed primarily at developing policy strategies and inadequately at the implementation of such strategies. This deficiency required planning systems to be further developed so as to incorporate considerations of implementation problems into the strategic plans.

About 1960 the planning, programming, budgeting systems (PPBS) assured the integration of long-term planning with its extrapolation and implementation considerations and strategic planning with its total policy orientation. This new planning method required a comprehensive view of the environmental situation, an important consideration given that between 1955 and 1960 the United States as well as Europe were changing from a seller's market to a buyers' market. One notes

> The PPBS distinguished segments with their own characteristic requirements, growth and risks--an approach with some similarities to the 'business we are in' approach (I. Snellen, 1975).[13]

The marketing concept consequently became a more central corporate theme which shifted attention away from production. Ansoff's Corporate Strategy published in 1965 highlighted the fact that organizations of the period were unilaterally oriented to expansion.

Snellen identified six approaches to strategic planning among United States corporations from 1950's to 1970's:

(1) personal-intuitive (adopted 1950)

(2) strategic variable (adopted 1950)

(3) "business we are in" (adopted 1950's)

(4) strategic gap (adopted 1960/1965)

(5) "stakeholders" (adopted 1965/1975)

(6) social-responsibility (adopted 1970's)

Each approach accentuates a specific phase of strategic planning and assigns a dominant position to choice of objectives. Approaches 5 and 6 demonstrate a shift in emphasis from goal setting to consideration of consequences.

With this historical perspective of strategic planning by United States corporations from 1950's through 1970's, one should endeavor to inventory the

strategic planning techniques and efforts observed in practice among the corporations in the United States.

INVENTORY OF STRATEGIC PLANNING TECHNIQUES AND EFFORTS

A number of surveys of planning techniques have been published in the past several years. A survey of 500 large United States corporations was made by Ange, et. al., and reported in 1979.[14] Of the firms responding 94 percent had some form of documented long-range plans with 55 percent of those firms having centralized planning staffs. Long-range planning found support with top management, financial managers and the planning staff but little support was available from functional areas such as production, marketing and data processing. With the exception of utility companies, most firms tended toward 5 years as the cutoff for long-term plans with 71 percent updating the plan annually.

Areas considered in long-range planning by over 50 percent of the firms were (in descending order)

(1) Capital spending

(2) Expansion

(3) Sales forecasting

(4) Cash requirements

(5) Policy formulations

(6) Investment planning.

Benefits perceived by those companies using planning models were (1) the ability to explore more alternatives, (2) more efficient planning, (3) better quality decision making and (4) faster decision making. Cost savings were perceived as a benefit by only 27 percent of the firms.

Problems with the long-range planning process were reported by 95 percent of the firms. The three major problems were (1) difficulties in obtaining useful input data, (2) communication between top management and lower levels, and (3) credibility of output.

A survey of twelve planners from large corporations was reported by Simmons in 1981.[15] This survey reported the most prevalent planning period was five years with most of the plans being the sum of division plans and not integrated into a corporate plan. In the majority of the cases the long-range plan was reasonably coordinated with the operating plan.

Forty percent of the strategies came from top management and staff with line management and the chief executive officer close behind with 29 and 26 percent, respectively. Two-thirds of the companies reported the plan was primarily developed by line management rather than by planners. Top management was much more interested in long-range planning than line management with interest expected to increase in the following twelve months. Almost two-thirds of the planning effort was expended on internal events.

Techniques used most by the companies participating were (in descending order)

(1) Trend extrapolation

(2) Computer simulation

(3) Scenarios.

A survey by Fahey, et. al., of 100 members of the World Future Society (aware professionals) included twelve firms which were later interviewed concerning their planning techniques.[16] The aware professionals indicated that scenario writing was the most important planning technique with simulation and input/output analysis also highly rated. In the area of environmental

forecasting the Delphi method and, to a lesser extent, scenario-writing methods were the principal techniques. The ideal time horizon for the majority of these corporations was one to five years for the largest number. Capital-intensive firms tended to have a longer planning horizon.

The study concluded that the corporations were "only at the doorstep of current planning thought".

A survey by Richard B. Higgins gathered data from 86 large corporations concerning their planning effort and satisfaction with that effort.[17] Sixty-three percent of the companies reported they had a "systematic, long-range planning program"; in sixteen percent of the companies there was disagreement among CEO's, planners, and general managers as to the very existence of a long-range planning program within their own company.

Overall, respondents were slightly more satisfied than dissatisfied with the results of their long-range planning systems with the CEO's slightly more satisfied than chief planning officers and general managers. There was a weak positive relationship between satisfaction and age of planning systems.

The five most frequently reported problems were:

(1) making sure top management and major line officers really understood the nature of long-range planning (75.9 percent).

(2) top management becomes so engrossed in current problems that it spends insufficient time on long-range planning and the process becomes discredited among managers and the staff (75.6 percent).

(3) creating a climate in the company which is congenial and not resistant to planning (74.2 percent).

(4) using plans as standards for measuring managerial performance (73.7 percent).

(5) developing company goals suitable as a basis for formulating long-range plans (67.9 percent).

The relative importance of the problems varied between CEO's, planners and general management. CEO's considered lack of understanding of long-range planning the major problem (78.9 percent) while planners considered lack of top management attention to long-range planning the most important problem (96.3 percent). General managers felt that the failure to use the plans as standards for evaluating management performance as the most serious deficiency (76.7 percent).

The survey also determined that only 39 percent of the company had a formal system of recognizing contributions to long-range planning.

Reviewing the history of strategic planning, one can identify the following techniques actually used by United States corporations.

(1) Budgeting

(2) Personal-intuitive

(3) Return on investment and portfolio management

(4) PPBS

(5) Growth strategy (strategic gap analysis)

(6) Modeling and simulation

(7) Probability.

Budgeting is perhaps the oldest planning tool used by an organization. However, budgeting tends to be very short-term, primarily dealing with the present. Because, as reported by L. A. Allen, budgeting is the principal way managers spend their time, it often impedes the long-range planning effort.[18] As budgeting does not deal with the future nor consider the long-term influences of environment or competition, it should be considered a separate tool for implementation of the strategic or long-range plan.

According to L. A. Allen, the two functions should be operationally separate.

The personal-intuitive system of planning is particularly effective when implemented in an environment in which the chief executive officer has total knowledge of the business and the company and can be a strength in firms requiring entrepreneurial qualities. The weaknesses, including changing environments and business's chain of succession, and increased size of the firm, are obvious.

Return on investment (ROI) was the most popular strategic planning tool in the 1960's.[19] This measure was the basis for most corporate decisions during this period until it became apparent the ROI formulas were not universal. ROI does not tend toward growth or capital investment strategies, ROI encourages deceptions by managers eager to implement their projects, and ROI often leads to incompatible projects. Portfolio management, based on the work of the Boston Consulting Group soon followed.[20] Portfolio management classifies products according to market growth and relative market share. The greatest strength--simplicity--of portfolio management is its greatest weakness. This technique excludes strategic variables such as risk, economic fluctuations, continuity of supply, etc. Portfolio management still has application in strategic management systems as a tool when used in concert with other methods to place the company's product in the marketplace.

The Planning, Programming, Budgeting Systems (PPBS) began in the late 1950's, ensured integration of long-term planning and strategic planning, and promised a comprehensive view of the environmental situation.[21] PPBS distinguished segments with their own characteristic requirements, growth and risks. Marketing became the central concept, shifting attention away from production. PPBS was the first formal strategic planning system but

geared to expansion, did not project planning very far into the future, and was oriented to existing programs, not necessarily taking advantage of new opportunities. PPBS was embraced by governmental agencies to a greater extent than by private corporations.

The Growth Strategy (Strategic Gap) method is similar to the PPBS in that both systems are strongly goal oriented. The major difference is that the strategic gap approach does not limit those goals to the "business we are in" as with PBBS. The "gap" strategy is more concerned with quantitative profit goals in the near term. Several questions recur with the "gap" approach including "What is the current position?", "What developments are there, both internally and externally?" and "What do we want to achieve?". It is clear a "gap" has been created if the desired situation and anticipated situation do not overlap.

Criticism of this approach was directed at the unilateral quantitative orientation which characterized this method and the split such an approach caused between the planning staff and line management. New variations of the "gap" approach developed by Ackoff moderate these difficulties.[22]

Modeling and simulation have been tools supplementing other approaches to strategic planning since planning began. With the common availability of general purpose computers, the use of modeling and simulation has increased significantly. As noted earlier, the use of simulation and scenario building are currently playing a large role in corporate long-range planning in the United States. Modeling and simulation are generally customized to the particular company and involve sensitive corporate information; therefore, data concerning the specific application of these techniques are rarely available.

Decision analysis combines the ability of decision theory to handle uncertain problems with the ability of systems analysis, operation research and modeling methodology. Decision analysis applies all available rational and logical means to solve difficult management decision problems. Thus, decision analysis shapes methodology to fit the problem rather than attempting to make the problem fit a specific methodology. This technique, as with modeling and simulation, has been known for many years but has been developed into a feasible and effective management discipline over the past decade.

Decision analysis uses expert judgment and condenses it into probability distribution which can be combined into a large number of scenarios. The results of this analysis gives probability distribution based on the present value of cost. The expert judgement is obtained from technicians, subsidiary management and top management personnel.[23]

Decision analysis, as with simulation, is not a total strategic planning system but a system which could find much application as part of a strategic planning process.

A number of case histories of strategic planning in industry are available in the literature.

The Monsanto case history emphasizes positioning the business in the total environment--competitive, economic and socio-political, requiring information on matters both internal and external to the business.[24] Monsanto advocates support of strategic plans by sound operational plans and coordinating the efforts of the individual members of the organization--in short, strategic planning is an integral part of the management system.

Monsanto's implementation of strategic planning was incremental, beginning

with each division preparing a long-range plan which was generally ignored because of the attention to the on-line aspects of the business. Several attempts were made to put a strategic plan together at the corporate level, but there was no commitment to these plans by top management, and lower organizational levels perceived the plans as too esoteric and general to provide guidance for divisional or product-group management.

To provide a functional planning and management system, Monsanto created a "Strategic Planning Unit" (SPU) for which a discrete strategy could be written. The units were organized in terms of positioning relative to customers as opposed to traditional operational units. An SPU might only cover a single product; others might include an entire division.

The basis of the planning effort at Monsanto is a Business Direction Paper prepared by each SPU covering the following items.

(1) Monsanto's position in the business today.

(2) The position which might be realistically achieved in the future.

(3) A general course of action recommended to achieve this future position.

(4) Indices appropriate to measure this business and Monsanto's progress.

The Business Direction Papers were reviewed by the chief executive officer with each SPU establishing a corporate consensus on the business direction of the unit. The chief executive officer's approval of a business direction paper constitutes a standing order for the management of the SPU and that the paper is consistent with the strategic goals of the corporation. Summary long-range plans are issued annually to reflect up-to-date cost estimates by operating management to implement the approved business direction paper. From these long-range plans operational plans and annual budgets are established. Each of the 15,000 employees at Monsanto are evaluated annually based in part on the unit's performance toward meeting the established goals.

Gould National Battery Company consists of 40 different businesses operating as a self-sufficient division.[25] Planning began in 1967-68 and has slowly evolved into a strategic planning system. The system currently consists of strategy statements prepared by each division which, on ten pages or less, describe where the division wants to take the business in the next five years including the resources required. This planning system is backed up by a monthly report comparing ten variables with the plan and with the prior year and a management incentive plan in which a manager's compensation is dependent upon the division's performance. The division plans are reviewed by the president. (Approximately twenty weeks of the president's time are taken up in the process.)

The Gould strategic planning system is flexible, requiring fewer updates of the strategy statements by mature divisions and not requiring the same format of new divisions which haven't completely developed their product line.

General Electric Company developed a strategic planning system in the early 1970's as a result of problems with computers, jet engines and international business.[26] To accomplish the planning the company was broken down into 43 strategic business units (SBU) which had a unique business mission within the company, had identifiable competitors and have all major business functions of manufacturing, engineering, finance, and marketing within the control of the SBU manager.

Westinghouse also reorganized its 135 sprawling divisions into 37 business units, responsible for monitoring the company's long-term health.[27] Westinghouse also shifted from a predominantly financial thrust of the planning process to a greater emphasis on external, environmental and competitive factors. The company's current strategic plan is almost totally without numbers, instead

concentrating on what the factors are that make the business perform as it does, and which of the factors can be influenced in Westinghouse's favor.

Olin Corporation has a system in which plans are formulated within a unit with the assistance of two or three managers from other areas of the company. These outsiders are called profilers and it is their job to lend perspective and to help the planning unit's managers communicate better. The profilers come from both staff and line jobs and are not professional planners. The profilers must go through a brief training program to prepare for the annual planning sessions.

The business unit plan is profiled in a two-page document and is passed up the line to top management. From these profiles, management prepares a yearly "action document"--a non-financial budget of actions that should be taken to meet long-range goals.

The benefits of the profile system are that each unit is forced to think through its ideas carefully, the profilers gain knowledge of the unit's activities, the process is a good management development tool, and top management gets a clear picture of where each unit stands and where it should be headed.

Having considered the history of corporate strategic planning in the United States from the 1950's through 1970's and having examined the efforts by United States corporations utilizing such techniques in practice, one may recommend selected approaches for adaptation by public higher education institutions in the 1980's.

RECOMMENDATIONS OF CORPORATE STRATEGIC PLANNING TECHNIQUES ADAPTED FOR PUBLIC HIGHER EDUCATION

From the review of the literature on corporate planning and a separate

review of higher education literature, the following factors are noted.

(1) Corporations are generally ten to fifteen years ahead of public higher education in strategic planning activities.

(2) When surveyed, most corporations indicate an involvement with sophisticated planning techniques, such as scenario building, modeling and simulation.

(3) Most anecdotal literature on corporate long-range planning describes a system of planning which involves bottom to top planning with a review and summarization process by top management.

(4) The chief executive officer's involvement is considered key to the success of any of the planning systems.

(5) Generally, the planning staff is small, providing consulting service, data and tools to the line managers responsible for the planning.

(6) The planning system should be flexible enough to fit all planning units. A successful planning system may undergo major revisions on a regular basis.

(7) Strategic planning must be a part of the management process.

(8) A reward system must be linked to the planning process through a documented review system.

(9) A planning system is often antagonistic to bureaucratic structures and procedures.

Public colleges and universities and United States corporations are not identical in their requirements for strategic planning. However, the two groups have many similarities which are worth noting. These similarities include:

(1) Both groups share common concerns with the external environment including social, political, and technical changes as well as significant impact of economic fluctuations.

(2) Both groups are subject to demographic changes in the marketplace with the resultant pressure for internal changes.

(3) Most public higher education institutions are funded based on enrollments, and research and public service grants awarded. This is not too distant from the pressure of sales and profit generation felt by corporate management.

(4) The organization of a large public university is not totally dissimilar to that of a large corporation. Both have strategic business units operating functions different from any other unit within the organization. The major difference might be that a university has many more levels of independence than industry with each professor having significant ability to operate unilaterally. This independence gives rise to a much larger requirement for debate when strategic decisions are proposed.

(5) Neither industry or public higher education is totally free to operate with impunity. Both are controlled externally to some extent by government and politics, must respond to the needs and desires of the ultimate consumer, and have internal restrictions of unionism and/or tenure policies.

Because of the above similarities, there should be much that a public university could borrow from industry in strategic planning. The following steps should be considered for adaptation to the particular university's strategic planning requirements.

(1) Maintain a data base from which planners at all levels can draw. This data base should contain as much information as practical concerning the internal and external environments with which the university must cope.

(2) Establish expertise in using the planning techniques and tools such as modeling, simulating and projecting as well as decision analysis. This effort should support the strategic planners but not replace them.

(3) Design a system of strategic planning which will accept input from all units, provide for a review process, and subsequent summary into a university plan of action.

(4) Insure that a reward system is tied to a unit's success. While the rewarding of the unit manager with salary increases is probably not practical in public higher education, an appropriation in the annual budget tied to such performance would reinforce the importance of proper planning.

The public college and university environment is currently shifting from a sellers' market to a buyers' market as happened to industry twenty years ago. United States corporations found strategic planning a significant tool for survival during that period; public higher education should be gearing up that same tool to face the 1980's.

ENDNOTES

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